

## **REMARKS**

Claims 1 - 5 and 12 - 19, 22 - 25 and 32 - 35 are pending. Claims 1, 16, 25, and 32 are the independent claims.

### **I. REJECTION OF CLAIMS AS INDEFINITE UNDER 35 USC 112, SECOND PARAGRAPH**

The office action rejects claims 1-5, 12-19, 22-25 and 32-35 under the first paragraph 35 USC 112, as failing to comply with the written description requirement. These claims have been amended to recite "decreasing weight in mammals" and thus have literal support in the specification, e.g., at page 2, lines 7 - 11.

### **II. OBVIOUSNESS REJECTIONS BASED UPON COOK AND OHKARU ET AL.**

The Examiner rejects claim 1-5 and 12-19 and 22-25 and 32-35 under 35 USC 103 as obvious based upon Cook, US 5,725,873, in view of the Ohkaru et al., Clin Chim. Acta, 182 (3): 295-300 (1989) (Abstract).

Cook teaches "antibodies which can alter physiological processes that adversely affect growth and efficiency." Lipase is an enzyme required for the assimilation of fat. It is an exocrine enzyme released in the lumen of the intestinal tract. Blocking that function makes feed into a way to decrease growth and efficiency. Blocking the lipase enzyme will make the feed a bulk agent rather than nutrient rich source.

The Examiner asserts that Cook discloses encapsulating an antibody, CCK. However, Cook merely coated the antibody complex with fat, which is not an "encapsulation" process. Animal feed is frequently provided in a pelleted form. Prior to forming a pellet, the raw material (corn, soybean meal) in meal form or liquid form are mixed in a horizontal mixer for a determined time. After the mixing cycle, feed is transported to a conditioner that cooks the feed at high temperature. Once cooked, feed is pass through a pelletizer, which forms the feed into small cylinders of various dimensions depending on the type of animal to be fed. In the case of chickens the dimension of the pellet varies from 2/32" to 1/4". After the pellet has been formed it goes to another area where fat is sprayed. In the case of Cook's

patent, the inner core is the pellet and it is sprayed with fat that contains the antibody; making this not a "liposome" but a pellet coated with fat that contains the antibody. Pelleted feed is often coated with fat to increase its fat/energy content. That is simply called "fat coating."

A liposome is bilayer membrane, and an emulsion is monolayer (examiner is asked to check definition of liposome and emulsion). Blending whole egg powder or yolk powder with oil without first dissolving the powder in water does not make a liposome or an encapsulate; what it makes is a powder coated with fat. An encapsulation or emulsion means that the aqueous phase, which contains the antibody becomes the inner core of the encapsulate, since the antibody (which is a water-soluble protein) does not dissolve. Since example 2 of Cook's patent does not encapsulate the antibody because no true emulsion or solution was used, thus providing only coated powder particles.

Ohkaru et al, suggested the use of the antibody produced against endogenous lipase for the detection of the enzyme in blood, not to inhibit lipase in the intestinal tract. Ohkaru et al. discloses two monoclonal antibodies used in either an immunosorbent enzyme assay or in a competitive binding enzyme immunoassay for human serum pancreatic lipase. But this article does not describe *feeding* such antibodies to an animal, or inhibiting fat absorption in any way. In fact Ohkaru et al. reported that one of the disclosed antibodies did not even inhibit lipase.

Ohkaru et al. merely disclosed the existence of one anti-lipase antibody, that was used in an *in vitro* assay, but that information alone would not have supplied any motivation to administer such an antibody, in liposome encapsulated form, to reduce weight in mammals as claimed. Accordingly, the present invention would not have been obvious within the meaning of 35 USC 103.

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DATE

Respectfully submitted,

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